

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference CXT-124PC	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/US2005/028606	International filing date ( <i>day/month/year</i> ) 10 August 2005 (10.08.2005)	Priority date ( <i>day/month/year</i> ) 30 September 2004 (30.09.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant CITRIX SYSTEMS, INC.			

- This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
- This REPORT consists of a total of 10 sheets, including this cover sheet.  
  
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.
- This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input checked="" type="checkbox"/>	Box No. VIII	Certain observations on the international application
- The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

	Date of issuance of this report 03 April 2007 (03.04.2007)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Authorized officer  <b>Beate Giffo-Schmitt</b>  e-mail: pt03.pct@wipo.int

REC'D 27 FEB 2006

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From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)Applicant's or agent's file reference  
see form PCT/ISA/220**FOR FURTHER ACTION**  
See paragraph 2 belowInternational application No.  
PCT/US2005/028606International filing date (day/month/year)  
10.08.2005Priority date (day/month/year)  
30.09.2004International Patent Classification (IPC) or both national classification and IPC  
H04L29/06Applicant  
CITRIX SYSTEMS, INC.

## 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

## 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/028606

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2005/028606

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**Box No. IV Lack of unity of invention**

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1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☒ paid additional fees.
  - ☐ paid additional fees under protest.
  - ☐ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
  - ☒ not complied with for the following reasons:  
**see separate sheet**
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☒ all parts.
  - ☐ the parts relating to claims Nos.

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	13,14
	No: Claims	1-12
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

**see separate sheet**

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**Box No. VII    Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

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**Box No. VIII    Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

**Re Item IV**

**Non-unity of invention**

1. This International Examining Authority found two groups of inventions in this international application.
  - I. Claims 1 and 6 are directed to associating derivative session tickets with a client node. This is achieved by a method of associating session tickets comprising the steps and a system for associating session tickets adapted to: receiving, by a ticketing authority server, a ticket generation request and information about a client node; identifying, by a ticketing authority server, a master session ticket associated in a storage element with the client node; generating, by a ticketing authority server, a derivative session ticket for the client node; associating, by a ticketing authority server, the derivative session ticket with the master session ticket; and storing, by a ticketing authority server, information about the client node and the derivative session ticket in the storage element.
  - II. Claim 13 is directed to renewing session expiration dates. This is achieved by a method of renewing associated session tickets comprising the steps: receiving, by a ticket authority server, a session ticket renewal request and a session ticket, retrieving, by a ticket authority server, the session associated with the received session ticket; renewing, by a ticket authority server, session expiration date; retrieving, by a ticket authority server, the master session ticket associated with the received session ticket; renewing, by a ticket authority server, the session expiration date of the master session ticket; retrieving, by a ticket authority server, any derivative ticket associated with the master session ticket; and renewing, by a ticket authority server, the session expiration date of the derivative session ticket associated with the master session ticket.
2. The lack of unity becomes apparent a priori.
  - 2.1. The two claimed inventions solve different technical problems and, hence, are not so linked as to form a single general inventive concept, Rule 13.1 PCT.

- 2.2. There is no technical relationship between the two groups of inventions as not a single same or corresponding technical feature is involved, Rule 13.2 PCT.

**Re Item V - I. Group of Invention**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: WO 2004/049672 A

2. The subject-matter of claim 1 can not be considered as involving an inventive step, Article 33(3) PCT.
- 2.1. D1 discloses with regard to most of the features of method claim 1 (the references in parentheses applying to this document):
- a method of associating session tickets (page 12, lines 25-28 and Fig. 8), comprising
- receiving, by a ticketing authority server, a ticket generation request (page 15, lines 1-7 and step 816, Fig. 8) and information about a client node (page 14, lines 30-32 and steps 812-816, Fig. 8);
  - identifying, by a ticketing authority server, a master session ticket (page 16, lines 26-28 and step 834, Fig. 8) associated in a storage element with the client node (402, 406, 410, Fig. 4);
  - generating, by a ticketing authority server, a derivative session ticket for the client node (page 13, lines 14-19);
  - associating, by a ticketing authority server, the derivative session ticket with the master session ticket (page 16, lines 28-29); and
- 2.2. The subject-matter of claim 1 differs from the disclosure in D1 in storing, by the ticketing authority server, information about the client node and the derivative session ticket in the storage element.

- 2.3. Storing, by the ticketing authority server, information about the client node and the derivative session ticket in the storage element is the straightforward design measure for memorising all the security associations of a client node. Taking this measure is supported by the hint in D1 to install the derived shared key in addition to installing the shared key in a security association table (page 16, lines 26-29).
3. The subject-matter of independent claim 6 can not be considered as involving an inventive step, Article 33(3) PCT.
- 3.1. The subject-matter of apparatus claim 6 entirely corresponds to the non-inventive subject-matter of method claim 1.
4. The additional features of the dependent claims do not add anything new or inventive to the independent claims because the features are either known from the above cited prior art (generating a master session ticket) or are common measures (identifying a master session ticket using the received information to query, assigning session profile type to session ticket, master session ticket contains client identifier, user name, domain name or session profile type, the derivative session ticket comprises session profile type or reference to master session ticket, associating tickets by storing a reference).

**Re Item V - II. Group of Invention**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:  
  
D2: US 2003/233541 A1  
D3: "A cryptographic protocol to obtain secure communications in extended Ethernet environment", XP010030804
2. It is considered that the present invention meets the criteria of Article 33(1) PCT as the subject-matter of independent claim 13 is new and is considered to be inventive,



Article 33(2) and (3) PCT.

- 3.1. With regard to the features of method claim 13, D2 discloses a method (paragraph 0075 and Fig. 3) of renewing associated session tickets, receiving, by a ticket authority server, a session ticket renewal request and a session ticket (step 250, paragraph 0075 and Fig. 3); retrieving, by a ticket authority server, the session associated with the received session ticket (step 251, paragraph 0075 and Fig. 3); renewing, by a ticket authority server, session expiration date (step 253, paragraph 0075 and Fig. 3); renewing, by a ticket authority server, the session expiration date of session tickets (paragraphs 0193-0194).
- 3.2. The subject-matter of claim 13 differs from the disclosure in D2 in retrieving, by a ticket authority server, a master session ticket associated with the received session ticket; renewing, by a ticket authority server, the session expiration date of the master session ticket; retrieving, by a ticket authority server, any derivative ticket associated with the master session ticket; and renewing, by a ticket authority server, the session expiration date of the derivative session ticket associated with the master session ticket.
- 3.3. The problem to be solved by the present invention is consistently updating the validity of all interrelated session credentials by a central authority having resource constraints.
- 3.4. The solution is not obvious from the above mentioned prior art. Although D2 considers the presence of multiple session tickets in the network, these tickets are kept independently on each other, without any master ticket. Moreover, there is neither a hint to synchronise the keys' validity periods nor a hint to use a hierarchical ticket structure, which then could serve as basis for maintaining relationships between interrelated tickets. D3 fails to manage the validity of keys within a key hierarchy by means of expiration dates and only relies on periodical renewal, i.e., periodical retransmission, of keys, and most of the keys is only decentrally maintained in a peer-to-peer fashion without ticket authority server. The remaining documents of the International Search Report do not contain expiration date update for keys at all.

4. Claim 14 depends on independent claim 13. Hence, the subject-matter of claim 14 is also new and inventive, Article 33(2) and (3) PCT.

**Re Item VII**

**Certain defects in the international application**

1. The independent claims are not in the two-part form, Rule 6.3(b) PCT.
2. The features of the claims are not provided with reference signs, Rule 6.2(b) PCT.
3. The relevant background art is not mentioned in the description, nor are these documents identified therein, Rule 5.1(a)(ii) PCT.

**Re Item VIII**

**Certain observations on the international application**

1. Independent apparatus claim 6 contains a "master session ticket" and a "derivative session ticket", which represent abstract data structures rather than technical features of the claimed apparatus itself, Article 6 PCT.
2. Independent apparatus claim 6 contains method steps ("receiving", "identifying", "generating", "associating", "storing"). Hence, the intended limitations are unclear, Article 6 PCT.